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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,164	08/25/2000	Yih-Feng Chyan	15-6-9	6246

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EXAMINER

DICKEY, THOMAS L

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/648,164

Applicant(s)

CHYAN ET AL.

Examiner

Thomas L Dickey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 20-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 9 and 15-19 is/are allowed.
- 6) ☒ Claim(s) 1, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 2-8 and 10-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. The amendment filed on 02/20/02 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by CHANG ET AL. (6,498,367).

Chang et al. discloses an integrated circuit structure comprising a semiconductor layer 13 having a major surface formed along a plane, first 22 and second (no part #, it is the N++ region in the center of figure 2B) spaced-apart doped regions extending into the surface from the plane, a third doped region 20 of different conductivity type (p-type, i.e. doped with boron) than the first region, positioned above the plane and over the first region, and a conductive layer 14 formed between the first and second regions and above the plane, providing electrical connection between the doped regions, wherein the conductive layer 14 is a continuous film extending from the first region to the second

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region, and conductive layer 14 physically contacts the first region and the second region. Note figures 1A-2C and column 9 lines 49-63 and column 10 lines 1-7 of Chang et al.

Allowable Subject Matter

4. Claims 15-18 are allowed over the references of record because none of these references disclosed or can be combined to yield the claimed invention such as a semiconductor device comprising a first layer of semiconductor material; a first field effect transistor having a first source/drain region formed in the first layer, a channel region formed over the first layer and a second source/drain region formed over the channel region; a second field effect transistor having a first source/drain region formed in the first layer, a channel region formed over the first layer and a second source/drain region formed over the channel region; and a conductive layer in a plane extending between the first layer and the first field effect transistor channel region, said conductive layer comprising a metal positioned between the first source/drain region of each transistor to conduct current from one first source/drain region to the other first source/drain region, as recited in claim 15.

A. Claim 9 is allowed over the references of record because none of these references disclosed or can be combined to yield the claimed invention such as an integrated circuit structure comprising a semiconductor layer having a major surface formed along a plane, first and second spaced-apart doped regions formed in the surface; a third doped region over the first region of different conductivity type than the

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first region; and a conductive layer formed between the first and second regions and above the plane, providing electrical connection between the doped regions, wherein the conductive layer comprises one or more materials taken from the group comprising tungsten silicide, tungsten nitride, titanium silicide, titanium nitride and cobalt silicide.

B. Claim 19 is allowed over the references of record because none of these references disclosed or can be combined to yield the claimed invention such as a semiconductor device comprising: a first layer of semiconductor material; a first field effect transistor having a first source/drain region formed in the first layer, a channel region formed over the first layer and a second source/drain region formed over the channel region; a second field effect transistor having a first source/drain region formed in the first layer, a channel region formed over the first layer and a second source/drain region formed over the channel region; and a conductive layer comprising a metal positioned between the first source/drain region of each transistor to conduct current from one first source/drain region to the other first source/drain region, wherein the conductive layer comprises a metal silicide.

C. Claims 2-8, and 10-12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Response to Arguments

5. Applicant's arguments with respect to claims 1 and 13-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 703-308-


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0980. The examiner can normally be reached on Monday through Thursday 8 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

tld
03/2003


Minh Loan Tran
Primary Examiner